US 20070247429A1

(19) United States

(12) Patent Application Publication (10) Pub. No.: US 2007/0247429 A1

Westerman (43) Pub. Date: Oct. 25, 2007

(54) KEYSTROKE TACTILITY ARRANGEMENT ON A SMOOTH TOUCH SURFACE

(75) Inventor: **Wayne Carl Westerman**, San Francisco, CA (US)

Correspondence Address:
WONG, CABELLO, LUTSCH, RUTHERFORD & BRUCCULERI, L.L.P.
20333 SH 249
SUITE 600
HOUSTON, TX 77070 (US)

(73) Assignee: **APPLE COMPUTER, INC.**, CUPERTINO, CA

(21) Appl. No.: **11/380,109**

(22) Filed: **Apr. 25, 2006**

Publication Classification

(51) **Int. Cl.**
G09G 5/00 (2006.01)

(52) **U.S. Cl.** **345/168**

(57) **ABSTRACT**

Disclosed are four arrangements for providing tactility on a touch surface keyboard. One approach is to provide tactile feedback mechanisms, such as dots, bars, or other shapes on all or many keys. In another embodiment, an articulating frame may be provided that extends when the surface is being used in a typing mode and retracts when the surface is used in some other mode, e.g., a pointing mode. The articulating frame may provide key edge ridges that define the boundaries of the key regions or may provide tactile feedback mechanisms within the key regions. The articulating frame may also be configured to cause concave depressions similar to mechanical key caps in the surface. In another embodiment, a rigid, non-articulating frame may be provided beneath the surface. A user will then feel higher resistance when pressing away from the key centers, but will feel a softer resistance at the key center.